

REMARKS

Claims 1-6, 8-14, 16 and 19-28 are pending in this application. By this Amendment, claims 1, 6, 9 and 14 are amended. Various amendments are made for clarity and are unrelated to issues of patentability.

The Office Action objects to claims 1, 6, 9 and 14 because of informalities. It is respectfully submitted that the above amendments obviate the grounds for objection. Withdrawal of the objection is respectfully requested.

The Office Action rejects claims 1, 8, 9, 13, 16 and 19-24 under 35 U.S.C. §103(a) over U.S. Publication No. 2003/0020674 to Higashino et al. (hereafter Higashino) in view of U.S. Publication No. 2003/0122742 to Akiba. The Office Action also rejects claims 2 and 10 under 35 U.S.C. §103(a) over Higashino in view of Akiba and U.S. Publication 2003/0071577 to Du et al. (hereafter Du). Still further, the Office Action rejects claims 3, 6, 11, 14 and 25-26 under 35 U.S.C. §103(a) over Higashino in view of Akiba, Du and U.S. Publication 2003/0095084 to Mizobata. The Office Action also rejects claims 4-5, 12 and 27-28 under 35 U.S.C. §103(a) over Higashino in view of Akiba, Mizobata and U.S. Patent 6,876,340 to Kobayashi. The rejections are respectfully traversed with respect to the pending claims.

Independent claim 1 recites that on-cells are selected by the address driver applying data of a first voltage to the address electrode and the first driver applying a scan pulse of a second voltage to the scan electrode, and off-cells are selected by the address driver applying data of a third voltage to the address electrode **in synchronism with the scan pulse of the second voltage**, wherein the third voltage is greater than the first voltage,

and wherein the first voltage to select the on-cells is one of zero voltage and a ground voltage GND, and wherein the second voltage is a positive voltage.

The applied references do not teach or suggest at least these features of independent claim 1. More specifically, the Office Action states that Higashino does not teach the features relating to off-cells being selected by applying data of a third voltage (greater than the claimed first voltage). The Office Action (on page 5) states that Akiba discloses that choosing un-lit cells may be accomplished using a voltage. The Office Action also states that applying Akiba's concept to Higashino would result in a positive pulse PaA being used as a third voltage to select off-cells while 0 or ground would be used as a first voltage to select on-cells. Applicants respectfully disagree.

Independent claim 1 recites that off-cells are selected by applying data of a third voltage to the address electrode in synchronism with the scan pulse of the second voltage. A sum of the second voltage and the third voltage is an addressing firing voltage that causes a discharge to occur between an address electrode and a scan electrode (in an address period). The discharge may erase wall charges, accumulated by a reset discharge, in the off-cells. As a result, a sustaining discharge does not occur in the off-cells during a sustain period that follows the address period.

As discussed in paragraph [0065], Akiba chooses cells to be lit by applying a positive pulse PAY (to a Y electrode 4) in synchronization with applying a negative address pulse P_A (to an address electrode 6). A sum of the negative address pulse P_A and the positive pulse PAY may be considered an addressing firing voltage.

On the other hand, Akiba chooses the cells not to be lit by applying a voltage V_A (to the address electrode 6) at a same timing that the scan pulse PAY is maintained at 0 volts.

Accordingly, the un-lit cells may be “selected” because a sum of the voltage V_A and 0 volts is not greater than the addressing firing voltage (for the un-lit cells).

Under Akiba’s concept, applying a positive voltage pulse may be used as an address pulse P_A when choosing un-lit cells, because a sum of the address pulse P_A (a positive voltage pulse) and the positive pulse P_{AY} is less than the addressing firing voltage.

Accordingly, Akiba teaches that lit cells are chosen by discharges occurring when applying a voltage greater than an addressing firing voltage and that un-lit cells are chosen by no discharges occurring when applying a voltage less than the addressing firing voltage.

Higashino discloses that on-cells are selected by discharge and off-cells are selected by no discharge. In Higashino, a sum of P_{AS1} and P_{AA} is an addressing firing voltage.

Accordingly, the combination of Akiba and Higashino does not result in a positive pulse P_{AA} (i.e., greater than zero voltage) being used as a third voltage to select the off-cells because an addressing discharge occurs to select on-cells when applying the positive pulse P_{AA} . Thus, Akiba and Higashino do not teach or suggest that off-cells are selected by the address driver applying data at a third voltage to the address electrode in synchronism with the scan pulse of the second voltage, as recited in independent claim 1.

For at least the reasons set forth above, Akiba and Higashino do not teach or suggest all the features of independent claim 1. The other applied references do not teach or suggest the missing features of independent claim 1. Thus, independent claim 1 defines patentable subject matter.

Independent claim 9 recites selecting off-cells by applying data of a third voltage to

the address electrode in synchronism with the scan pulse of the second voltage. For at least similar reasons as set forth above, Akiba and Higashino do not teach or suggest at least these features of independent claim 9. The other applied references do not teach or suggest the missing features of independent claim 9. Thus, independent claim 9 defines patentable subject matter.

Independent claim 25 recites that the address driver to select off-cells by applying data of a third voltage to the address electrode during an address period, wherein the first driver applying a scan pulse of a second voltage to the scan electrode when the data of the first voltage is applied to the address electrode, and the first driver applying the scan pulse to the scan electrode when the data of the third voltage is applied to the address electrode during the address period, wherein the third voltage is greater than the first voltage.

For at least similar reasons as set forth above, Akiba and Higashino do not teach or suggest at least the features of independent claim 25. Akiba and Higashino do not teach or suggest to select off-cells by applying data of a third voltage to the address electrode (during an address period) and applying the scan pulse to the scan electrode when the data of the third voltage is applied to the address electrode (during the address period). The other applied references do not teach or suggest the missing features of independent claim 25. Thus, independent claim 25 defines patentable subject matter.

Accordingly, each of independent claims 1, 9 and 25 defines patentable subject matter. Each of the dependent claims depends from one of the independent claims and therefore defines patentable subject matter at least for this reason. In addition, each of the dependent claims recites features that further and independently distinguish over the applied references.

CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-6, 8-14, 16 and 19-28 are earnestly solicited.

If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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